

## ABSTRACT

An improved manufacturing system for a gas sensor is provided which is capable of establishing a required hermetic seal in a body of the gas sensor. The system comprises steps of preparing a sensor assembly including a housing, an air cover, an insulation porcelain, and a sensor element, pressing the air cover against the housing to fit an end of the air cover on an end of the housing to form an overlap thereof, and welding the air cover to the housing over the overlap. The welding is accomplished while pressing the air cover against the housing, thereby compressing an elastic member in the air cover to establish a hermetic seal between the sensor element and the housing. The air cover may be tacked to the housing before welding the overlap for securing a positional relation between the air cover and the housing.